

FP0404915

812:38803

[19]中华人民共和国国家知识产权局

[51]Int. Cl<sup>6</sup>

B01D 24/46

## [12] 实用新型专利说明书

[21] ZL 专利号 99231037.7

[45]授权公告日 1999年12月29日

[11]授权公告号 CN 2355767Y

[22]申请日 99.2.24 [24]颁证日 99.12.3

[73]专利权人 张永华

地址 400060 重庆市南岸区南坪东路10号

[72]设计人 张永华

[21]申请号 99231037.7

[74]专利代理机构 重庆市专利事务所

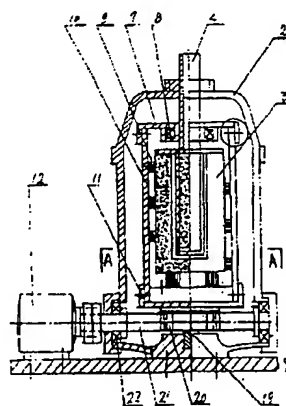
代理人 陈纪纲

权利要求书1页 说明书2页 附图页数2页

[54]实用新型名称 清刷式过滤净水器

[57]摘要

一种清刷式过滤净水器,包括有带进水管的密闭壳体和与滤胆相连的出水管,其特征在于:密闭壳体内设置有清刷装置,密闭壳体下部设置有与密闭壳体内相通并带有排污阀的排污管。本实用新型具有结构简单和操作方便的优点,它可以使滤胆与清洗刷始终保持接触,自动清洗净水器的滤胆,以保证饮用水的过滤质量。



ISSN 1008-4274

专利文献出版社出版

BEST AVAILABLE COPY

## 权 利 要 求 书

1. 一种清刷式过滤净水器, 包括有带进水管(1)的密闭壳体(2)和与滤胆(3)相连的出水管(4), 其特征在于: 密闭壳体(2)内设置有清刷装置, 密闭壳体(2)下部设置有与密闭壳体(2)内相通并带有排污阀(5)的排污管(6)。

2. 如权利要求 1 所述的清刷式过滤净水器, 其特征在于: 清刷装置是上支承盘(7)通过轴承(8)与出水管(4)连接, 带刷毛(9)的刷体(10)通过弹性压紧装置与上支承盘(7)和下支承盘(11)连接, 下支承盘(11)通过传动机构与密闭壳体(2)外的电动机(12)连接。

3. 如权利要求 2 所述的清刷式过滤净水器, 其特征在于: 弹性压紧装置是上支承盘(7)或下支承盘(11)的边沿设置有凸台(13), 弹簧(14)的一端插入开在凸台(13)上的孔洞(15)内, 另一端与刷体(10)连接。

4. 如权利要求 2、3 所述的清刷式过滤净水器, 其特征在于: 在上支承盘(7)或下支承盘(11)的径向上设置有刷体导向槽(16)。

5. 如权利要求 2、3 所述的清刷式过滤净水器, 其特征在于: 孔洞(15)端部设置有弹簧调紧装置。

6. 如权利要求 5 所述的清刷式过滤净水器, 其特征在于: 弹簧调紧装置是在凸台(13)上开有与孔洞(15)相通的并带螺纹的调紧孔(17), 与调紧孔(17)螺纹连接的调紧块(18)抵住弹簧(14)的端部。

7. 如权利要求 2 所述的清刷式过滤净水器, 其特征在于: 传动机构是在下支承盘(11)上固有转动轴(19), 转动轴(19)上固有蜗轮(20), 与蜗轮(20)相啮合的蜗杆(21)通过轴承(22)与密闭壳体(2)连接, 蜗杆(21)穿过密闭壳体(2)与电动机(12)固接。

## 说明书

### 清刷式过滤净水器

本实用新型涉及一种净水装置，特别是一种能清刷滤胆的过滤净水器。

现有的过滤净水器一般由滤胆、进水管、出水管和壳体构成，这种结构的过滤净水器使用一段时间后，出水量明显减小，其原因主要是滤胆被污垢或杂质堵塞，解决此问题的方式通常是把净水器拆卸开，将滤胆清洗干净，重新安装好之后再继续使用；这样一来，给用户带来了许多不便。

本实用新型的目的就是提供一种结构简单和使用方便的清刷式过滤净水器，它可以自动清洗净水器的滤胆。

本实用新型的目的是通过这样的技术方案实现的，它包括有带进水管的密闭壳体和与滤胆相连的出水管，其特征在于：密闭壳体内设置有清刷装置，密闭壳体下部设置有与密闭壳体内相通并带有排污阀的排污管。当净水器使用一段时间后，通过清刷装置对滤胆自动进行刷洗，打开排污阀，将清刷后的污垢或杂质通过排污管排出。

由于采用了上述技术方案，本实用新型具有结构简单和操作方便的优点，它可以使滤胆与清洗刷始终保持接触，自动清洗净水器的滤胆，以保证饮用水的过滤质量。

本实用新型的附图说明如下：

图 1 为本实用新型的结构示意图；

图 2 为图 1 中 A - A 的剖视图；

图 3 为弹性压紧装置的结构示意图。

图中：1. 进水管；2. 密闭壳体；3. 滤胆；4. 出水管；5. 排污阀；6. 排污管；7. 上支承盘；8. 轴承；9. 刷毛；10. 刷体；11. 下支承盘；12. 电动机；13. 凸台；14. 弹簧；15. 孔洞；16. 刷体导向槽；17. 调紧孔；18. 调紧块；19. 转动轴；20. 蜗轮；21. 蜗杆；22. 轴承。

下面结合附图和实施例对本实用新型作进一步说明：

如图 1 所示，本实用新型包括有带进水管 1 的密闭壳体 2 和与滤胆 3 相连的出水管 4，其特征在于：密闭壳体 2 内设置有清刷装置，结合图 2 可知，密闭壳体 2 下部设置有与密闭壳体 2 内相通并带有排污阀 5 的排污

管 6。当净水器使用一段时间后，通过清刷装置对滤胆 3 自动进行刷洗，打开排污阀 5，将清刷后的污垢或杂质通过排污管 6 排出。

如图 1 所示，清刷装置是上支承盘 7 通过轴承 8 与出水管 4 连接，带刷毛 9 的刷体 10 通过弹性压紧装置与上支承盘 7 和下支承盘 11 连接，下支承盘 11 通过传动机构与密闭壳体 2 外的电动机 12 连接。

如图 1、2 所示，清刷装置是这样工作的：电动机 12 通过传动机构带动下支承盘 11 转动，下支承盘 11 又带动刷体 10 和上支承盘 7 通过轴承 8 绕出水管 4 和滤胆 3 旋转，刷体 10 上的刷毛 9 对滤胆 3 进行清刷，从进水管 1 进入的水可冲掉滤胆 3 被刷去的污垢，污垢和污水通过排污管 6 排出。

如图 3 所示，为了保证刷毛 9 始终与滤胆 3 接触，弹性压紧装置是上支承盘 7 或下支承盘 11 的边沿设置有凸台 13，弹簧 14 的一端插入开在凸台 13 上的孔洞 15 内，另一端与刷体 10 连接。在上支承盘 7 或下支承盘 11 的径向上设置有刷体导向槽 16。

如图 3 所示，孔洞 15 端部设置有弹簧调紧装置。弹簧调紧装置是在凸台 13 上开有与孔洞 15 相通的并带螺纹的调紧孔 17，与调紧孔 17 螺纹连接的调紧块 18 抵住弹簧 14 的端部。

如图 1 所示，传动机构是在下支承盘 11 上固有转动轴 19，转动轴 19 上固有蜗轮 20，与蜗轮 20 相啮合的蜗杆 21 通过轴承 22 与密闭壳体 2 连接，蜗杆 21 穿过密闭壳体 2 与电动机 12 固接。

说明书附图

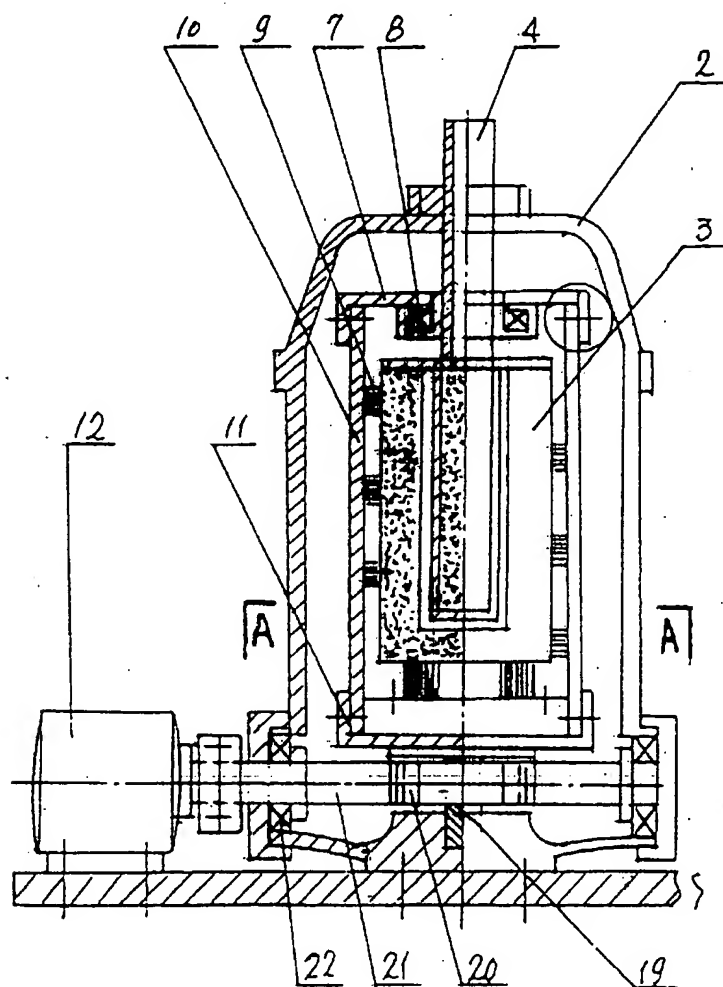


图 1

# 说明书附图

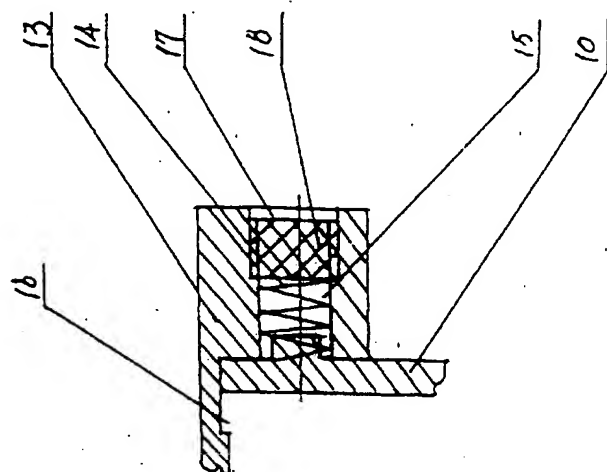


图3

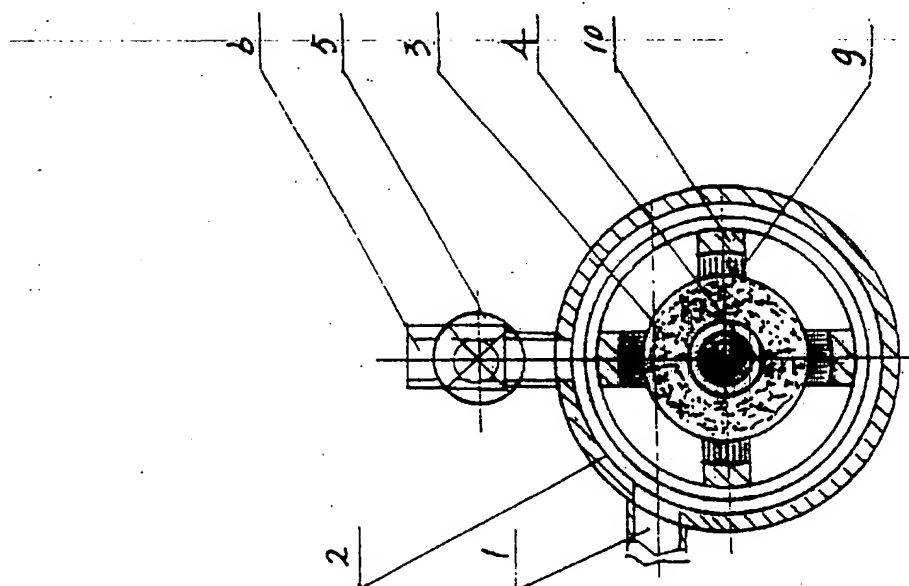


图2

Application Number:99231037.7

**A water filtering purifier with cleaning brush**

A water filtering purifier with cleaning brush, comprising an enclosed case with a water inlet pipe as well as an outlet pipe connected to a filtering bladder, wherein a cleaning device is installed in the enclosed case, and a blowdown pipe that is connected through into the enclosed case and equipped with a blowdown valve is mounted beneath the enclosed case. This utility model has advantages of simple structure and easy operation, and it can always keep said filtering bladder contact with the cleaning brush and automatically clean the filtering bladder of the water purifier so as to ensure filtering quality of the drinking water.

## Claims

1. A water filtering purifier with cleaning brush, comprising an enclosed case (2) with a water inlet pipe (1) as well as an outlet pipe (4) connected to a filtering bladder (3), wherein a cleaning device is installed in the enclosed case (2), and a blowdown pipe (6) that is connected through into the enclosed case (2) and equipped with a blowdown valve (5) is mounted beneath the enclosed case (2).

2. The water filtering purifier with cleaning brush according to claim 1, wherein the cleaning device is such structured that its upper support disk (7) is connected to the outlet pipe (4) through a bearing (8), the brush body (10) with brush hair (9) is connected to the upper support disk (7) and the lower support disk (11) through a elastic compaction device, and the lower support disk (11) is connected to a motor (12) outside the enclosed case (2) through a transmission mechanism.

3. The water filtering purifier with cleaning brush according to claim 2, wherein the elastic compaction device is designed such that a protruding stand (13) is set up on the edge of the upper support disk (7) or the lower support disk (11), one end of the spring (14) is inserted into the hole (15) on the protruding stand (13), and another end is connected to the brush body (10).

4. The water filtering purifier with cleaning brush according to claims 2 and 3, wherein a guide slot (16) of the brush body is radially mounted on the upper support disk (7) or the lower support disk (11).

5. The water filtering purifier with cleaning brush according to claims 2 and 3, wherein a spring charging device is installed at the end of the hole (15).

6. The water filtering purifier with cleaning brush according to claim 5, wherein the spring charging device is such that a screwed charging hole (17) connected to the hole (15) is machined in the protruding stand (13), and a charging block (18) that is screwed into the charging hole (17) is located against the end of the spring (14).

7. The water filtering purifier with cleaning brush according to claim 2, wherein the transmission mechanism is such that a rotating shaft (19) is fixed on the lower support disk (11), a worm wheel (20) is fixed on the rotating shaft (19), a worm (21) joggled with the worm wheel (20) is connected to the enclosed case (2) through a bearing (22), and the worm (21) is fixed to the motor (12) through the enclosed case (2).



## Specification

This utility model relates to a water purifying device, especially a water filtering purifier that can clean and brush the filtering bladder.

The existing water filtering purifier is composed of a filtering bladder, a water inlet pipe, an outlet pipe and a case. Such purifier has a gradually decreased water output after a period of its usage due to jam of the filtering bladder caused by dirt or impurities. The best solution is to remove the water purifier, clean the filtering bladder, and then reassemble it for use. Such way may have much inconvenience to the users.

This object of this utility model is to offer a simply structured and easily operated water filtering purifier with cleaning brush, which can automatically clean the filtering bladder of the water purifier.

This object of this utility model is reached by means of such technical scheme that has a enclosed case with a water inlet pipe as well as an outlet pipe connected to a filtering bladder, wherein a cleaning device is installed in the enclosed case, and a blowdown pipe that is connected through into the enclosed case and equipped with a blowdown valve is mounted beneath the enclosed case. After a period of usage, the water purifier automatically cleans the filtering bladder through the cleaning device, opens the blowdown valve and then discharges dirt or impurities through the blowdown pipe.

This utility model has advantages of simple structure and easy operation due to application of above technical scheme, which can always keep the filtering bladder contact with the cleaning brush and automatically clean the filtering bladder of the water purifier so as to ensure filtering quality of the drinking water.

Description of attached figures of this utility model:

Fig. 1 is a structure sketch of this utility model;

Fig. 2 is a sectional view of A-A in Fig. 1;

Fig. 3 is a structure sketch of the elastic compaction device.

In the figures, 1.Inlet pipe; 2.Enclosed case; 3.Filtering bladder; 4.Outlet pipe; 5.Blowdown valve; 6.Blowdown pipe; 7.Upper support disk; 8.Bearing; 9.Brush hair; 10.Brush body; 11.Lower support disk; 12.Motor; 13.Protruding stand; 14.Spring; 15.Hole; 16.Guide slot of brush body; 17.Charging hole; 18.Charging block; 19.Rotating shaft; 20.Worm wheel; 21.Worm; 22.Bearing.

Further description of this utility model combining with the attached figures and embodiments  
Shown in Fig. 1, this utility model comprises an enclosed case 2 with a water inlet pipe 1 as well as an outlet pipe 4 connected to a filtering bladder 3, wherein a cleaning device is installed in the enclosed case 2. Combined with the Fig. 2, it is known that, and a blowdown pipe 6 that is connected through into the enclosed case 2 and equipped with a blowdown valve 5 is mounted beneath the enclosed case 2. After a period of usage, the water purifier automatically cleans the filtering bladder 3 through the cleaning device, opens the blowdown valve 5 and then discharges dirt or impurities through the blowdown pipe 6.

Shown in Fig. 1 and Fig. 2, the cleaning device is such structured that its upper support disk 7 is connected to the outlet pipe 4 through a bearing 8, the brush body 10 with brush hair 9 is connected to the upper support disk 7 and the lower support disk 11 through a elastic compaction device, and the lower support disk 11 is connected to a motor 12 outside the enclosed case 2 through a transmission mechanism.

Shown in Fig. 3, in order to ensure constant contact of the brush hair 9 with the filtering bladder 3, the elastic compaction device is designed such that a protruding stand 13 is set up on the edge of the upper support disk 7 or the lower support disk 11, one end of the spring 14 is inserted into the hole 15 on the protruding stand 13, and another end is connected to the brush body 10. The guide slot 16 of the brush body is radially mounted on the upper support disk 7 or the lower support disk 11.

Shown in Fig. 3, the spring charging device is installed at the end of the hole 15. The spring charging device is such that a screwed charging hole 17 connected through the hole 15 is machined in the protruding stand 13, and a charging block 18 that is screwed into the charging hole 17 is located against the end of the spring 14.

Shown in Fig. 1, the transmission mechanism is such that a rotating shaft 19 is fixed on the lower support disk 11, a worm wheel 20 is fixed on the rotating shaft 19, a worm 21 joggled with the worm wheel 20 is connected to the enclosed case 2 through a bearing 22, and the worm 21 is fixed to the motor 12 through the enclosed case 2.